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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/910,435	07/20/2001	Camille Borer	3463/OJ445	2735

7590

10/30/2002

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EXAMINER

HAMPTON HIGHTOWER, PATRICIA

ART UNIT

PAPER NUMBER

1711

DATE MAILED: 10/30/2002

12

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No. 09/910,435		Applicant(s) BORER ET AL.	
Examiner Patricia Hightower		Art Unit 1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 7/20/01;4/4/02;4/9/02;1/4/02.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>10</u> | 6) <input type="checkbox"/> Other: |

Information Disclosure Statement

The information disclosure statement filed April 9, 2002 has been considered and has been made of record.

Response To Amendment

The preliminary amendments filed July 20, 2001 and January 04, 2002 are acknowledged, and have been made of record; claims 1-17 are presently pending.

Specification

The disclosure is objected to because of the following informalities: The disclosure does not have the required "Headings" in the arrangement of the disclosure.

Appropriate correction is required.

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
- (e) BACKGROUND OF THE INVENTION.

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- (1) Field of the Invention.
- (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (f) BRIEF SUMMARY OF THE INVENTION.
- (g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (h) DETAILED DESCRIPTION OF THE INVENTION.
- (i) CLAIM OR CLAIMS (commencing on a separate sheet).
- (j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Germany on January 22, 1999. It is noted, however, that applicant has not filed a certified copy of the 19902458.8 application as required by 35 U.S.C. 119(b).

Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. PCT/CH00/00007 filed on January 04, 2000.

35 USC 112 Rejection

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16 and 17, the language **"characterised in that"** is considered to render the claims indefinite; it is suggested

that the applicants substitute the term -- wherein -- for the language “*characterized in that*”.

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by “such as” and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949).

In the present instance, **claim s 1, 3, 5, 6, 8, 10, 11, 12 and 16-17** recites the broad recitation (1) “crystallising plastic material” (2) “predefined, essentially vertical path (21); characterised in that two compartments (12', 12”) are provided”, (3) “one free space (18) is provide at the bottom of the associated partition wall (13)”, (4) “the first compartment (12') takes up more than half”, (5) “before said material is led to heating on condensation in a solid phase”, (6) “in a preheating space (31) comprising up to eight stages”, (7) “the crystallized material is brought into the shape of a bulk material steam

of four-side", (8) "the bulk material stream is approximately 1:2 to 1:15", (9) "the treatment gas is applied to one side (2) of the four-side cross-section in at least two stages, each of increased temperature", (10) "precystallisation and crystallization are preferably carried out within a duration of 10 to 80 minutes", and (11) "takes place within a duration of 60 to 120 minutes", (12) "an inspection glass (24) is associated with at least one compartment (12)", (3) [(1) "in particular polyethylene terephthalate", (2) "in particular by way of sectors in a mutual, at least approximately rotation – symmetrical housing", (3) "that preferably the discharge aperture (19) is provided at the top of the subsequent compartment (12)"]; (4) "preferably more than 2/3 of the area in top view of the treatment space (12) which is at least approximately rotation – symmetrical", (5) "in particular polyethylene terephthalate", (6) "in particular using a device according to one of the preceding claims", (7) "preferably at least two stages, is heated to a temperature of at least 185⁰C", (8) "preferably at least 200⁰C and in particular to approx. 220⁰C", (9) "in particular rectangular cross-section of essentially even bulking across the cross-section, with treatment gas flowing from one side (L) of the four-sided section", (10) "preferably ranging from 1:3 to 1:10", (11) "preferably from the opposite side", (12) "e.g. the last compartment", (13) "preferably carried out within a duration of 10 to 80 minutes, preferably 15 to 40 minutes, in particular within approx. 20 to 30 minutes", (13) "in particular approx. 90 minutes". Which is the narrower statement of the range/limitation.

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Regarding claim 6, the phrase "for example" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Regarding claim 6, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

35 USC 102 Rejection

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Al Ghatta et al (USP 5,714,571).

Al Ghatta et al (USP 5,714,571) discloses an improved process for continuous crystallization of polyester resins (aromatic polyester resin – polyethylene terephthalate) and the equipment used in the process in which a whirling fluidized bed (with mixing characteristics) is employed: Which anticipates the claimed invention. See abstract; col. 1, lines 5-40, 41-67; col. 2, lines 1-20, 23-38, 39-42, 48-67; col. 3, lines 1-10, 17-30, 31-64; col. 4, lines 8-26; example 1; Figure 1; the claims.

Al Ghatta et al (USP 5,714,571) discloses at col. 2, lines 48-67, the crystallization process in the whirling fluidized bed is characterized by the fact that the inert gas used for the bed fluidication is fed to the bed at a temperature not lower than 195°C and

between 195°C and 235°C, and the average residence time of the particles that pass through the bed is higher than 5 minutes and is in general between 5 and 50 minutes. The patentee teaches the fluid bed is preferably divided into two compartments, defining different volumes communicating between them at the top of the bed and fed from bottom separately by the fluidification gas. See col. 2, lines 64-67.

The patentee teaches the amorphous polymer is fed from the top of the section with a larger volume and is conveyed by the gaseous stream into the second compartment where conditions of whirling bed are also maintained. See col. 3, line 1-4.

The patentee states the gas which feeds this compartment leads the fine polymer particles out of the bed through an exit placed in the upper side of the compartment. The polymer is discharged at the bottom. See col. 3, lines 5-9.

Also, the patentee teaches at col. 3, lines 17-27, 28-56; the polymer is subsequently brought to the desired crystallinity value by means of subsequent crystallization processes, which are conventionally carried out in the mechanical mixers where the polymer is longitudinally moved while it is, at the same time, subjected to a strong radical mixing. The process is carried out at temperatures of the chips of about 10°-30°C higher than that of the chips coming out from the fluidized bed. The residence time is in general between 20 and 70 minutes. The chips coming out from this mixer feed another mechanical mixer where they are subjected to temperature conditions corresponding to that one used in the following SSP (Solid State Polycondensation) reactor. The residence time of this second mixer is in general between 20 and 70

minutes. The purpose of the second crystallize is to give to the polymer an appropriate crystal organization quantifiable through the shift to the highest temperature of the premelting peak. The completion of the polymer crystallization coming from the fluidized bed can be carried out, besides using crystallizers with forced movement, also by using other equipment such as two standard whirling fluidized beds in series as a whirling fluidized bed combined with a mechanical mixer.

The SSP process is carried out in a vertical fixed bed reactor where the chips coming out from the crystallization end-stage feed the reactor from the top and come out of the bottom.

Obviousness-type Double Patenting Rejection

Claims 1-17 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-6 of U.S. Patent No. 5,799,989. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instantly claimed device for crystallizing plastic material (polyethylene terephthalate/polyester resin) in the form of pellets or shaped pieces and a method for treating the plastic material (polyethylene terephthalate/polyester resin) wherein the plastic material is crystallized during heating before, condensing in a solid phase using the instantly claimed device, in which plastic material is exposed to a hot treatment gas for a predetermined amount of time in at least two spaces at a specific temperature range, is necessarily encompassed by the patent's apparatus for the continuous crystallization of polyester material since both are

claiming overlapping elements having a housing jacket (cylindrical) in which a treatment space is formed, a gas entry connection and a gas outlet connection, a perforated base and a product entry and a product outlet, the improvement comprising that the housing jacket has an axis and that the product entry and product outlet means are arranged concentrically and parallel with said axis in the housing jacket, said product outlet means being axially displaceable; wherein the product outlet means consists of tubular lower part and an upper part provided with orifices, said lower part simultaneously being formed as a guide for the displaceable upper part and wherein an adjustment means engages the upper part. Further, the process as instantly claimed; would necessarily result in the apparatus of claimed in the patent.

Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

These references are cited to show the state of the art of a method producing polyester/polyethylene terephthalate, a method for the crystallization of polyester resins, and apparatus reactors; Stouffer, Cetinkaya, Highton, and Meyer.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patricia Hightower whose telephone number is 703-308-2434. The examiner can normally be reached on Monday - Friday from 9:30 A.M. – 6:00 P.M.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 703-308-2462. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

P. Hightower:mn
October 29, 2002



P. Hampton-Hightower
Primary Examiner
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